

Partner nr. 13
IPPT PAN – RTD – Poland

Description of organization

The IPPT PAN is one of the largest Polish research centres in the multi-disciplinary area of mechanics of solids, structures, fluids and biomaterials, engineering acoustics including non-destructive testing methods and ultrasonic applications in medicine, information technology, mechatronics, robotics and ecologically oriented construction engineering. The IPPT PAN, with its strong ties to world science, has always been a span between research carried out in Eastern and Western Europe. It was an initiator of the International Centre of Mechanical Sciences (CISM) in Udine. The institute runs a National Contact Points for the 5th and 6th Framework Program. Currently, it is the main coordinator of 6FP NoE on Advanced Materials and Structure (AMAS-NoE) and 6th FP NoE "Knowledge-based Multi-component Materials for Durable and Safe Performance" (KMM-NoE). These projects are focused on hi-tech composites, metallic alloys and ceramic materials for high temperature, intermetallic materials, functionally graded materials, thin layers, lightweight materials, electronic materials; advanced structures comprise smart structures, sensors and actuators, biological implants, aircraft and automotive structural members.

Contact details

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Role in the project

New MMC development, solidification, porosity and fatigue analysis, microstructure vs functional properties, HT mechanical behaviour, constitutive modelling.

IPPT people involved in the project

	Wojciech Nowacki, professor, dr habil. 1961 - MSc Eng. Civil Engineering, Warsaw Technical University, Warsaw, Poland 1965 - PhD IPPT PAN, 1975 - habilitation IPPT PAN Research Areas: Waves propagation in non-elastic solids, Thermo-mechanical coupling in dynamic plasticity, Experimental methods in material dynamics and impact 4 books, over 160 publications. Coordinator of the 6FP "Network of Excellence Knowledge-based Multicomponent Materials for Durable and Safe Performance KMM-NoE" and the 5FP "International Network of Excellence for Advanced Materials and Structures AMAS-IsN" Director of the Institute of Fundamental Technological Research of the Polish Academy of Sciences
Role for NADIA	Director of the institute IPPT PAN
Contact	wnowacki@ippt.gov.pl
	Tomasz Kowalewski, prof. dr habil. 1969 M.Sc in Physics at Warsaw University, 1982 – PhD, 1995 – habilitation at IPPT PAN Head of the Department of Mechanics and Physics of Fluids mechanics. Main research topics: two-phase flow, droplets and liquid jets, nano-fibres and micro-flows, natural convection with phase change, solidification, image processing, flow visualisation, Particle Image Velocimetry (PIV), liquid crystals thermography (PIT), computational and experimental fluid dynamics; environmental fluid mechanics. Coordinator of CISM course on Phase Change with Convection: Modelling and Validation, published over 90 scientific papers. Polish leader of 3 European Programs in 5FP and 6FP, chair of 1 Center of Excellence. Organized several workshops and international congress of mechanics ICTAM, member of the Executive IUTAM Congress Committee.
Role for NADIA	Key person for partner 13 (IPPT PAN)
Contact	tkowale@ippt.gov.pl

	Maciej Kowalczyk, dr eng. Master thesis at The Faculty of Power and Aeronautical Engineering at Warsaw University of Technology in 1977. He started his career in a computer center at the Construction Equipment Research Institute. As an engineer involved in the FEM analysis and computer aided design he gained extensive industrial experience. Since 1985 at the Institute of Fundamental Technological Research of the Polish Academy of Sciences in Warsaw. His research speciality has pertained to modelling of nonlinear phenomena at postcritical states in a wide range of materials (metals, composites, rocks, ice) and structures. He has been the author or coauthor of more than 50 papers and reports, most of them published in international journals and conference proceedings. He received the postgraduate diploma at the Academy of Entrepreneurship and Management in Warsaw. Currently, he is a Head of the Division of Promotion and Cooperation with Industry.
Role for NADIA	Local coordinator of partner 13 (IPPT PAN), tasks manager, responsible for administrative issues
Contact	mkowal@ippt.gov.pl
	Wiera Oliferuk, assoc. prof. dr habil. 1967 - MSc Eng, Electronic Engineering at Warsaw University of Technology and at Power Engineering Institute in Moscow, 1972 – PhD in dielectric physics at Warsaw University of Technology, 1998 – habilitation in material science at IPPT PAN. Head of Laboratory of Thermoplasticity. Main research topics: physics of infrared radiation, thermodynamics of polycrystal deformation, determination methods of energy balance during polycrystal deformation, active and passive thermography in non-destructive testing of materials, physics education. Co-author of 3 books and over 60 scientific papers. Leader of 3 Research Projects of the State Committee for Scientific Research.
Role for NADIA	Key scientist of partner 13 (IPPT PAN)
Contact	wolif@ippt.gov.pl
	Zbigniew Kowalewski, prof. dr habil. Master thesis at Warsaw University of Technology in 1981, since then at the Institute of Fundamental Technological Research of the Polish Academy of Sciences in Warsaw. Currently, he is a Head of the Experimental Mechanics Division at the Department for Strength of Materials. He has 25 years research work experience in such fields as: plasticity, creep, experimental methods in solid mechanics, modelling of creep constitutive equations. He has been the author or co-author of more than 130 papers published in well known international journals and conference proceedings. Prof. Kowalewski has been a British Council Fellow and has spent 1992/93 academic year at University of Manchester Institute of Science and Technology, England.
Role for NADIA	Key scientist of partner 13 (IPPT PAN)
Contact	zkowalew@ippt.gov.pl
	Stanislaw Kucharski, assoc. prof. dr habil. He has completed his technical study at Warsaw University of Technology. He deals with surface engineering problems. In his works following problems are considered: experimental investigation and numerical simulation (FEM) of an influence of surface layers and thin coatings on fatigue life of structural elements; modelling of contact of rough surfaces and determination of models parameters from 3D surface measurement; application of laser hardening process to improve the fatigue life of notched components; identification of material properties by means of indentation test, experimental investigation and modelling of wear process (recently).
Role for NADIA	Key scientist of partner 13 (IPPT PAN)
Contact	skuchar@ippt.gov.pl